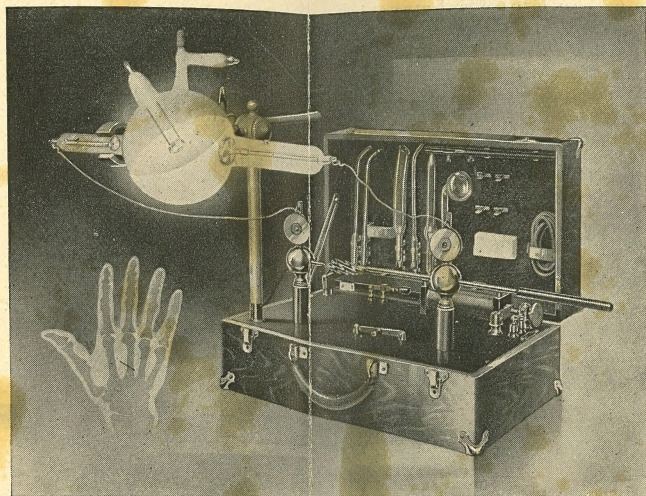


McIntosh No. 6 Portable X-Ray Coil



Price, for 110 volts, without X-Ray Tube or Tube Clamp, but including set of six vacuum electrodes, handle, cord, cautery cords, handle and one cautery electrode, attachment plug with cord and pair of X-Ray cord reels, mounted in lid	\$125.00
Price, additional, for 220 volts direct or alternating current.....	10.00
Price, 6-inch High Frequency X-Ray Tube, latest type.....	20.00
Price, 5x7-inch Imported B. P. C. Fluoroscope with lead glass protection.....	17.00
Price, X-Ray Tube Clamp	3.00
Price, 8x10-inch Intensifying Screen, complete with Cassette.....	20.00
Price, Flexible Tube Shield for X-Ray treatment work.....	8.00

THIS is the most powerful portable coil of its size on the market. It weighs only 28 pounds, gives a heavy 6-inch spark, and will excite a 6-inch tube perfectly, affording a good fluoroscopic view of extremities, elbow, knee, etc.

It will make a splendid plate of the shoulder or chest in 45 seconds with an Intensifying Screen, or a good diagnostic picture of the hip in one minute. The Intensifying Screen is an absolute necessity with all body pictures; but for knee, elbow, etc., is not necessary if a good, fast plate, such as the Paragon, is employed.

The No. 6 Coil can also be used for X-Ray treatments, giving good results in acme vulgaris, epithelioma, lupus, etc. For this work one should have the Tube Shield to protect operator.

The Coil is of the double Tesla type, is extremely simple of construction with the number of working parts reduced to the minimum and is constructed of the very highest quality of material and workmanship. For X-Ray work, both of the Tesla coils are employed. For high frequency treatments, one of the Tesla coils may be cut out by raising the grounding lever and leaning it against the discharging rod at the left.

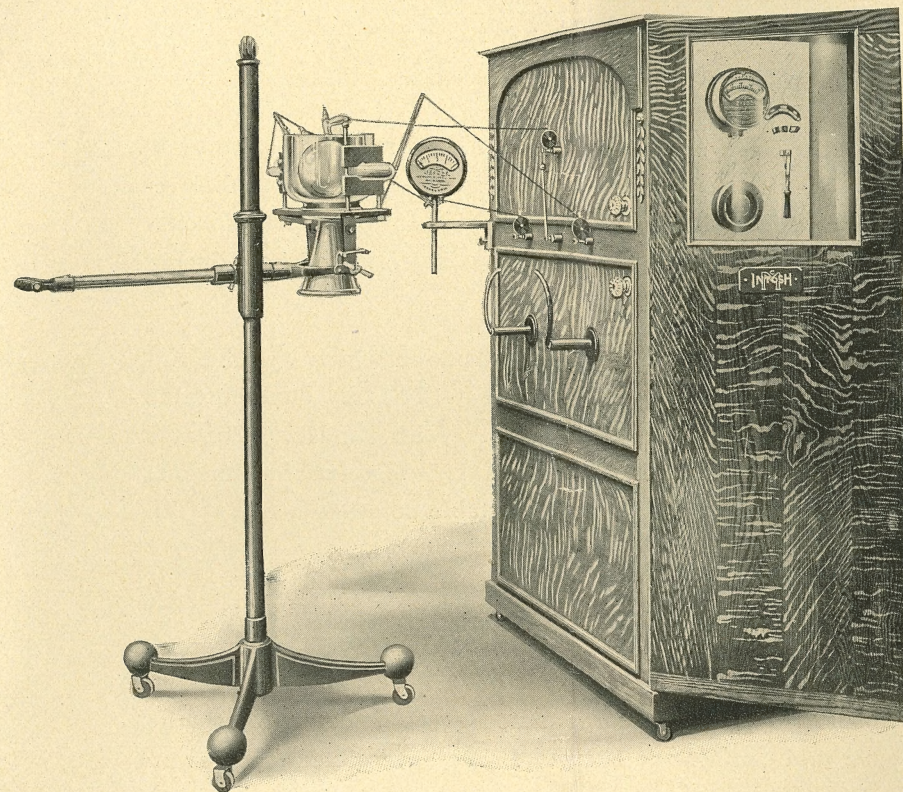
Good cautery results can also be had in nose or throat work. Any ordinary knife can be heated perfectly.

The No. 6 Coil can be operated either with 110-volt direct or alternating current by simply screwing the plug in any lamp socket. No rotary converter is required with the direct current, as with other outfits.

The apparatus is finely finished, all metal parts being in lacquered brass mounted on a highly polished insulating base and contained in a polished quarter-sawn oak case measuring 18 inches long, 11 inches wide, and 7 $\frac{3}{8}$ inches high.

The Hogan Silent X-Ray Transformer

(PATENTS PENDING)



Interrupterless, Motorless, Commutatorless
and Noiseless on Alternating Current

Manufactured by

McIntosh Battery & Optical Company

322 W. Washington Street, CHICAGO, ILLINOIS

Introductory

IN offering to the profession our new Interrupterless X-Ray Transformer, we bespeak the same cordial reception which has been accorded to the various specialties of our manufacture which have been introduced during the past thirty-five years.

The keynote of the principle of construction which we have followed in X-Ray apparatus is **EFFICIENCY**. Our portable coils have set the pace in this regard. With our No. 6 Portable Coil it is possible to make a hip picture while drawing but one ampere of current. With other portable coils from five to ten amperes are consumed for this grade of work.

In the design of our Interrupterless apparatus, we have followed the same lines of progress. The construction of all of our apparatus is far simpler than that of other makes. A glance at the switchboard of many of the transformers is enough to awe the beholder and confuse the operator. We have aimed to do away with complication and make the apparatus extremely simple to operate.

The Hogan Silent X-Ray Transformer

(Patents Pending)

A New Principle All other Interrupterless X-Ray Transformers employ a noisy commutator driven by a synchronous motor to rectify the high tension alternating current before it enters the tube. This commutator is one of the most disagreeable features of such outfits, and 90 per cent of all repairs and renewals required are necessitated by this feature of the apparatus. In the Hogan Silent X-Ray Transformer this commutator has been entirely eliminated. By a special method of winding the transformer and connecting the tube, one of the waves of each cycle is transposed; in other words, **we rectify the current wholly by electrical means** without resorting to mechanical devices. In producing this result (which is absolutely new from the X-Ray standpoint, and on which basic patents are now pending) we have made use of a principle long used in electrical engineering practice. Electrical engineers of high standing, who have investigated our methods, endorse them as entirely practical.

No Commutators, Liquid or Mechanical Rectifiers, Valves or Interrupters Used Absolutely no moving parts are contained in the Alternating Current Outfit aside from the adjustable spark gap rods. With the Direct Current Outfit a quiet-running rotary converter is required to change the direct current to an alternating current to excite the transformer, but otherwise no mechanical equipment is needed. There is an entire absence of the hissing arc which is formed at the commutator of the other machines.

No Valve Tubes Used Some who have witnessed the perfect working of this transformer in utter amazement have declared that we use valve tubes to eliminate the inverse. No vacuum tubes whatever are used aside from the X-Ray tubes used routinely.

No Special Tube Needed At first it was thought that a specially constructed tube would be necessary for the purpose, but after repeated experiments it was found that the regular tungsten target transformer tube could be employed.

Beautiful Hemisphere The most remarkable feature of operation is that the tube lights up with a most beautiful, sharply defined hemisphere of deep yellow fluorescence as clear and distinct as with a static machine. This is the ideal condition long sought for by expert radiographers.

Absolutely No Inverse At last an apparatus has been produced which excites a tube to the maximum brilliancy without inverse rays.

Deep Penetration The great penetration obtained is one of the most commendable features. Radiographs made with this apparatus have greater contrast and reveal the most delicate gradations of density in soft tissue.

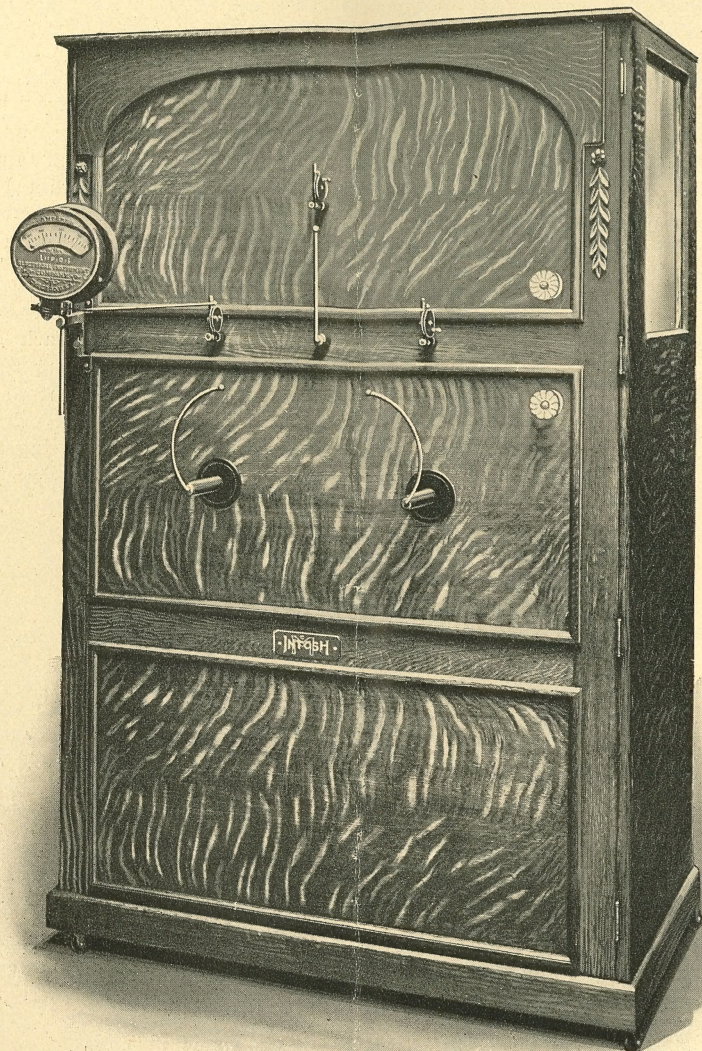
Marvelous Speed Exposures of the thorax or pelvis are made in a single flash without using a screen.

Flexibility The regulation is so perfect that fluoroscopic or treatment work can be engaged in without heating tube; or the heaviest radiographic effects can be had at an instant's notice.

Closed Core Transformer The transformer is known as the closed core type, in which the efficiency is 85%. Manufacturers who recommend the old open core type usually have an axe to grind by taking back their old induction coils for future use.

The Hogan Silent X-Ray Transformer

(Patents Pending)



Showing apparatus only, with protective door closed.

The Hogan Silent X-Ray Transformer

(Patents Pending)

Closed Core vs. Open Core The sophistries advanced against closed core transformers by their opponents are as fallacious as their motives are obvious. When you buy a 5 K.W. closed core transformer which consumes 5 K.W. and renders 85% efficiency in milliamperes to an X-Ray tube, you are getting the equivalent of a 10 K.W. open core transformer in which only 46% of the energy is actually delivered to the tube.

Closed Core Economy vs. Open Core Extravagance A closed core transformer properly constructed and conservatively rated will stand a 100% overload for short intervals with absolute safety. The low ratings indicate maximum load for constant service. Our 5 K.W., A.C. machine will draw 10 K.W. if desired, but we have yet to learn of any X-Ray work which cannot be done with 5 K.W. or less. The open core transformers are usually listed at their overload rating, while closed core machines are rated as for constant service.

Improved Method a Great Economy The new method which we have introduced is as great an improvement over the ordinary closed core transformer as is the difference between the closed and the open cores. There is no motor to operate on the alternating current and no noisy commutator.

No Royalty to Pay Best of all, you have no royalty to pay to the owner of the commutator patent. All of the other interrupterless machines, excepting one, are made under a certain patent and the manufacturers pay a royalty which amounts to between \$50.00 and \$100.00 on each machine. You pay this royalty in the long run if you buy the other type of machine.

Absolute Silence When our machine is operated with the alternating current it is absolutely silent except for the slight sound produced by the passage of the current through the tube. There is no noisy hum of motor, no hissing spark as with the commutator—absolutely nothing to distract your attention from your work or to alarm the patient.

Tube Expense Slight One of the fetiches, which have been invoked by various manufacturers against each other, is that of tube expense. We look forward to a similar invocation on the part of competitors. We have gone thoroughly into the matter of tube expense, made exhaustive tests, having made two hundred exposures with one tube and that tube is still in first-class working order and is a good picture tube at the present writing.

Heating of Tube Minimized The heating of the tube is minimized and as a prominent tube maker remarked: "This invention will be bad for the tube business."

Exposure Reduced Many of the theories advanced by manufacturers have no basis for their existence but theory. One of these beautiful theories is that by utilizing the low voltage of the cycle a much greater tendency toward burns is noted in the ray. This theory we have exploded absolutely by exposing the pastilles of Sabourad at the same time at which radiographs were being made, the pastilles showing not the slightest change in tint, thus indicating that there is absolutely no more danger from burns by utilizing the entire wave than by using only the peak of the wave, as others do.

Protection A novel feature has been introduced in our cabinet by lining the door with sheet lead so that when in use, the door, being swung outwards, serves as a shield to the operator. This gives you a protective screen without additional expense and, best of all, without requiring extra floor space. A lead glass window in the door allows operator to see the tube and read the meter.

The Hogan Silent X-Ray Transformer

(Patents Pending)

Fluoroscopic Attachment A lead glass window 16x24 inches in the lead-lined door affords facility for fluoroscopic work. We can furnish a fluoroscopic screen fitted to the **outside of door** so that the patient can stand against the door and the operator on the other side can look through the lead glass at the fluoroscopic image of the part under study. The screen can be moved up or down by means of a cord under control of operator. This additional fixture at small expense gives the same advantages as the large, costly Roentgenoscopes, not to speak of the saving in floor space.

Lead-Lined Plate Compartment How many trips have you made to and from your plate chest during a series of radiographs to avoid exposure of plates? When desired, we add a compartment to the cabinet just below the switchboard where one may place several loaded plates or cassettes in readiness for the exposures contemplated. It is heavily lined with sheet lead and is absolutely safe. It measures 5¼ inches wide, 19½ inches long, and 15 inches deep, affording room for one dozen 14x17, one dozen 11x14, one dozen 8x10, and one dozen 5x7-inch plates.

Artistic Cabinet The cabinet-work is of selected quarter-sawed oak, dark golden finish, hand rubbed, measuring 44 inches wide, 25¼ inches deep, and 70 inches high, and with discharging rods removed will pass through an ordinary door. The tall design used affords a door of sufficient size for a screen and at the same time takes up little floor space.

Compactness When the door is closed the switchboard is completely enclosed, hence all possibility of any one accidentally tampering with the apparatus is prevented.

PRICES.

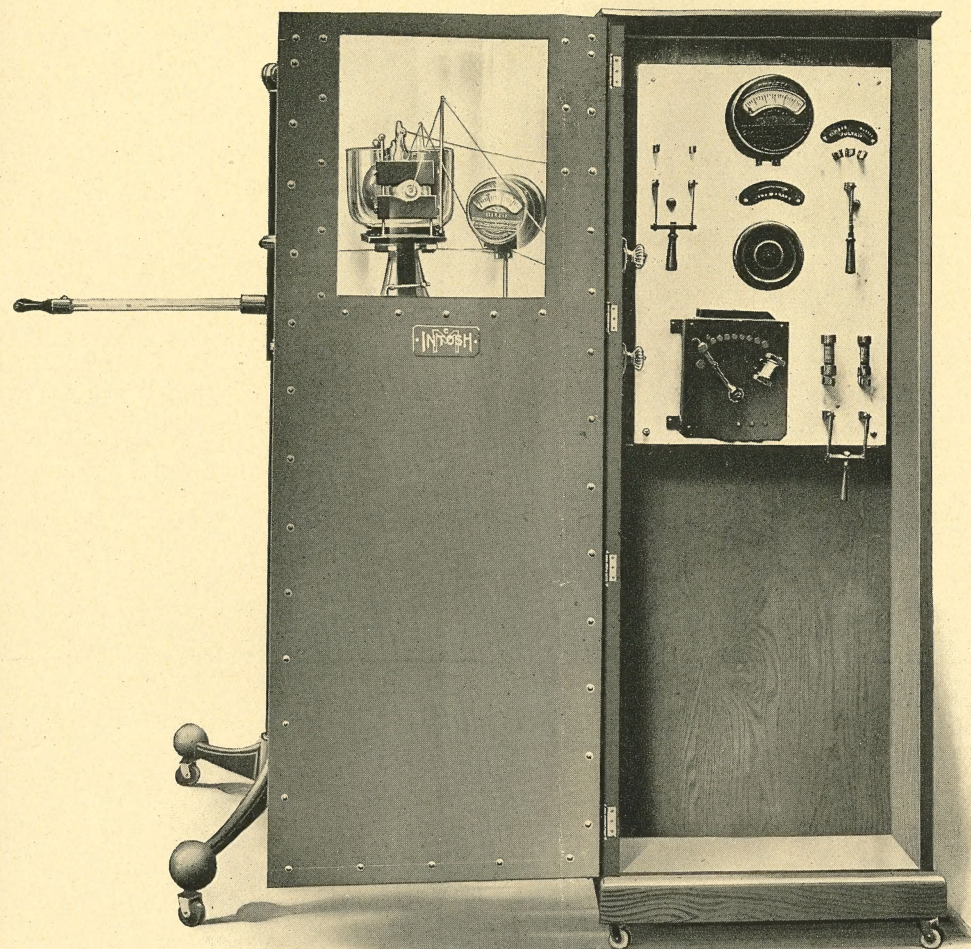
Hogan Silent X-Ray Transformer, 5 K.W., 110 or 220-volt alternating current, 60 cycles, complete with switchboard, rheostat, ammeter and three cord reels	\$ 750.00
Hogan Silent X-Ray Transformer, 5 K.W., 110 or 220-volt direct current, with same equipment as above, with addition of rotary converter to change direct to alternating, and starting rheostat	900.00
Milliammeter for X-Ray Tube.....	30.00
Fluoroscopic Screen, 11x14 inches, including attachments for mounting on door of cabinet	75.00
Lead-lined plate compartment	18.00

For Complete Outfit, Add

3 7-inch Tungsten Target Tubes, at \$35.00	105.00
1 McIntosh Stereoscopic Tube Stand with lead glass bowl and cone.....	85.00
1 Diagnostic Box	25.00
1 14x17-inch Intensifying Screen and Cassette.....	60.00
1 Tube Rack for three tubes.....	2.50
Price of complete outfit for direct current.....	\$1,300.50
Price of complete outfit for 60-cycle alternating current.....	1,150.50

The Hogan Silent X-Ray Transformer

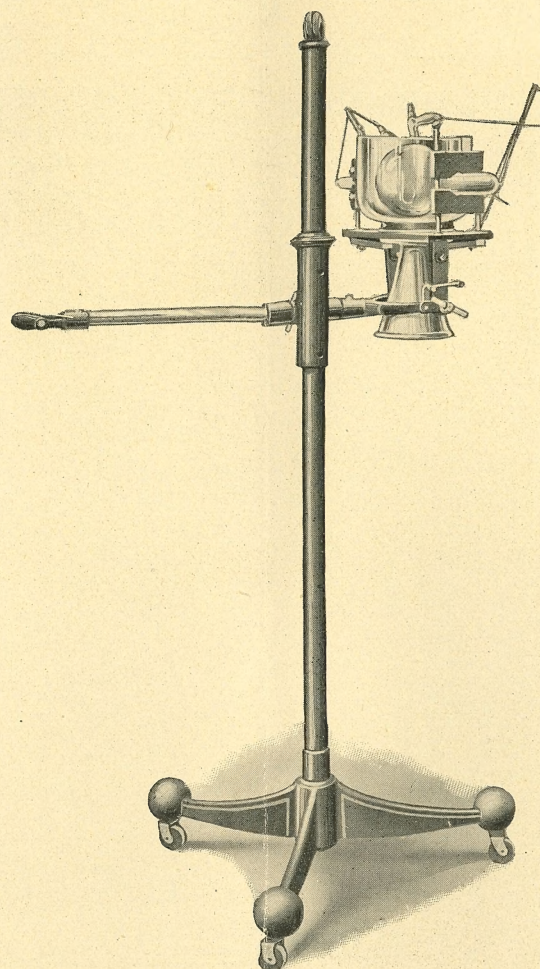
(Patents Pending)



SHOWING how door may be used as protective screen. Window is of lead glass and permits fluoroscopic screen to be suspended on the side facing tube, while operator, standing behind the protective screen, views the fluoroscopic image through the window in perfect safety.

Switchboard shown is for the direct current outfit, being furnished with starting rheostat for rotary converter.

McIntosh Stereoscopic X-Ray Tube Stand



Price\$85.00

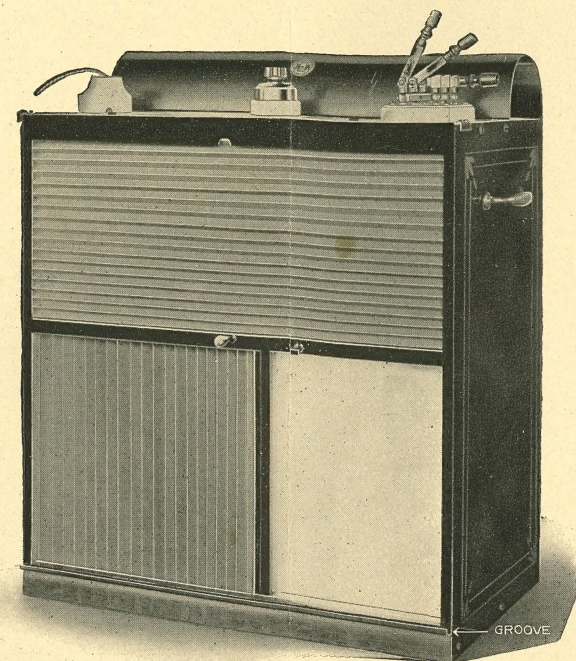
THE bowl and cone are of heavy lead glass, confining the rays to the field of operation. All adjustments are firmly and easily made. The tube carriage is suspended by a counterweight in the hollow standard. Stereoscopic adjustment is effected by a set of stops which may be adjusted for 2½-inch slide or to suit operator.

The tube can be adjusted at any desired angle for radiographic fluoroscopic or treatment work, having a movement of 27 inches vertically and 14 inches horizontally, with lateral adjustment adaptable to any requirements.

The stand is 67 inches high, 47 inches at greatest width, and weighs 115 pounds.

The bowl will hold any tube up to and including 8 inches in diameter.

Diagnostic Box



Price\$25.00

THIS is substantially made of sheet metal. The volume of light is under perfect control and may be graduated to suit thin or heavy plates. Any plate from 5x7 to 14x17 inches may be accommodated by adjusting the sliding curtains.

PARAGON X-RAY PLATES

Size in Inches	Per Dozen	No. of Plates in Package	Envelopes Extra Per Doz. Sets
5x7	\$1.40	12	\$0.30
6½x8½	2.10	12	.45
8x10	3.00	12	.60
10x12	5.30	6	.95
11x14	7.25	6	1.25
14x17	11.25	6	2.25

CRAMER X-RAY PLATES

Size in Inches	Per Dozen with 12 Envelopes	No. of Plates in Package
5x7	\$1.40	12
6½x8½	2.10	12
8x10	3.00	12
10x12	5.25	6
11x14	7.25	6
14x17	11.25	

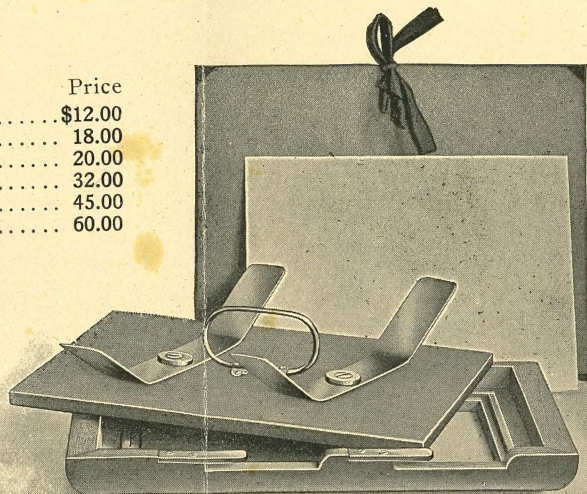
Price, 5x7-inch Imported Fluoroscope with lead glass screen.....\$17.00

Price, Dark Room Lamp 3.50

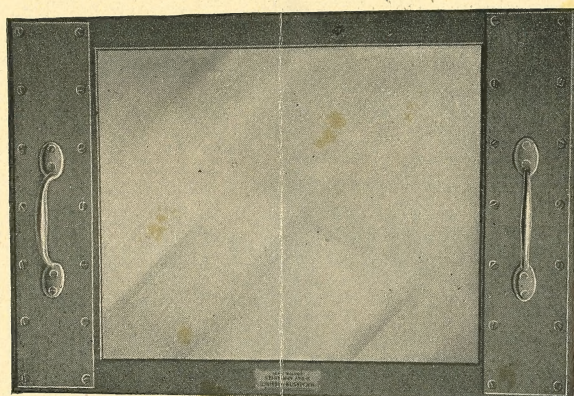
Price, M. Q. Developer for X-Ray Plates, large size tube..... .25

Intensifying Screen and Cassette

	Size in inches	Price
No. 221.	5 x 7.	.....\$12.00
No. 222.	6½ x 8½.	..... 18.00
No. 223.	8 x 10.	..... 20.00
No. 224.	10 x 12.	..... 32.00
No. 225.	11 x 14.	..... 45.00
No. 226.	14 x 17.	..... 60.00



Platinum-Barium-Cyanide Fluoroscopic Screens



No. 241.	Size in inches,	8x10.	Price.....	\$27.00
No. 242.	" " "	11x14.	"	50.00
No. 243.	" " "	14x17.	"	75.00

Price, additional, for fluoroscopic attachment to suspend above screens from protective door of cabinet\$25.00

(All screen prices subject to change without notice.)

THE screen is mounted in a good, strong, oak frame, and is covered by a thick, heavy piece of lead glass, assuring protection to the operator. A large handle is fastened to each end of the frame. Behind them are heavy pieces of metal, which prevent the rays reaching the hands.

Astral Screens for Fluoroscopy

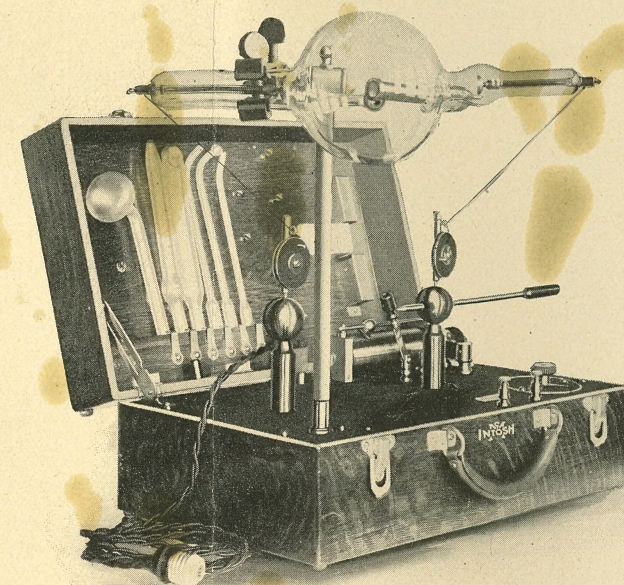
THIS new screen is of a substance which, when exposed to the X-Radiance, fluoresces similarly to those made of barium-platinum-cyanide, but a brighter and whitish light is obtained with X-Ray tubes working under the same conditions. The intensity of the fluorescence of the Astral screen is considerably greater than that of the platinum screen. Greater clearness of image is, therefore, obtained with the same amount of current passing through the X-Ray tube.

It is a well-known fact that barium-platinum-cyanide screens have the disadvantage of becoming brown in color and losing a certain amount of their fluorescent properties due to the influence of the X-Rays. The Astral screen is free from this drawback. Its chemical composition is not acted upon by X-Rays; in fact, not by any kind of light.

Prices, Including Frame with Lead Glass Cover

7 x 9 inches	.....	\$32.50
9½ x 12 inches	.....	45.00
12 x 16 inches	.....	75.00

McIntosh No. 2 X-Ray and Treatment Coil



Price, for 110 volts, without X-Ray Tube or Tube Clamp, but including set of six vacuum electrodes, handle, cord, attachment plug with cord and pair of cord reels, mounted in lid\$75.00

Price, 6-inch High Frequency X-Ray Tube, latest type..... 20.00

Price, 5x7-inch Imported B. P. C. Fluoroscope with lead glass protection..... 17.00

Price, X-Ray Tube Clamp..... 3.00

Cautery cords, handle and one cautery electrode..... 3.50

THIS Coil delivers a 3½-inch spark, sufficient to excite an X-Ray tube for examining or radiographing extremities, but not for deep-seated parts, being also suitable for X-Ray therapy in skin lesions.

It is especially valuable for high frequency treatments with the vacuum electrodes, the regulation being under perfect control by adjustment of the vibrator screw, and will excite any vacuum electrode perfectly from a delicate glow to full intensity.

It also affords good cautery results in nose and throat work.

The No. 2 Coil is finely finished and put up in a quarter-sawn oak case 11 inches wide, 18 inches long and 7¾ inches high and can be operated with either alternating or direct current by screwing the plug in any lamp socket.